



Burns Caused by Sitting on Corrosive Material

Koroziv Materyal Üzerine Oturma Sebebiyle Yanık

Burn

Alev Süzen¹, Betül Battaloğlu İnanç²

¹Department of Pediatric Surgery, ²Department of Family Medicine, Muğla Sıtkı Kocman University Faculty of Medicine, Muğla, Turkey

Özet

Esophageal burns because of corrosive material intake are seen in childhood. Sometimes chemical burns are seen as a result of contact of corrosive material with skin. Our case is a two-year-old boy child's genital region burns as a result of sitting on corrosive material. This is the first case of genital burns because of corrosive material contact in the literature.

Anahtar Kelimeler

Burn; Children; Genital Burn

Abstract

Koroziv madde içimi sonucu, özafagial yanıklar çocuklar arasında sık görülür. Bazen, kimyasal maddelerin teması ile ciltte yanıklar oluşur. Vakamız, 2 yaşında, kimyasal maddenin üzerine oturması ile genital bölge yanığı olan erkek çocuktur. Bu şekilde yanık oluşumu ile literatürdeki ilk vakadır.

Keywords

Yanık; Çocuk; Genital Yanık

DOI: 10.4328/JCAM.4450

Received: 01.03.2016 Accepted: 16.03.2016 Printed: 01.07.2016

J Clin Anal Med 2016;7(4): 570-2

Corresponding Author: Betül Battaloğlu İnanç, Department of Family Medicine, Muğla Sıtkı Kocman University Faculty of Medicine, Muğla, Turkey.

T.: +90 2522141326/5195 F.: +90 2522111345 E-Mail: betulbattaloglu@mu.edu.tr

Introduction

As a result of security measures taken in developed countries, burns from corrosive materials are a rare problem, but in developing countries like ours it is still an important health problem [1]. Corrosive substances have strong alkaline or acid properties and cause severe damage if they contact tissue. Commonly used corrosive substances at home are lime solvents (NaOH), oil solvents (NaOH), sink openers (NaOH, KOH), toilet cleaners (H₂SO₄, HCL), and oven cleaners (NaOH). Alkaline substances receive proton (H⁺) from their surroundings. The strongest base is LiOH. NaOH, KOH, Ba(OH)₂, Ca(OH)₂, NH₃, and NH₂-OH [2] are bases that are not as powerful. Basic substances cause liquefaction necrosis; acidic substances cause coagulation necrosis in the tissue. The duration of the contact with the substance is also important [3]. Superficial lesions heal smoothly; deeper lesions can lead to contraction in the chronic period [4]. The easy access of children to these widely-used cleaning substances resulting from the careless or deliberate use of these materials has been causing serious health problems in children. In this study, we present a 2-year-old child with genital burns caused by careless sitting on the corrosive material (sink opener). This is the first case in the literature.

Case Report

The two-year-old boy was admitted to emergency service two hours after sitting on the sink opener. Systemic physical examination was normal. However, superficial and deep burns of the second degree were revealed on the perianal and gluteal regions. The patient was hospitalized for follow up and treatment. Ampicillin-sulbactam and aminoglycoside were administered as antibiotherapy and intravenous fluid-electrolyte therapy was administered. The patient was evaluated for a colostomy because the burn was in the genital location. Burn areas might become contaminated with stool, resulting in sepsis. Necrotic tissue debridement was done regularly; silver sulfadiazin and nitrofurazon containing cream were used. The burns were dressed with vaseline gauze bandages. Local or systemic infection did not occur so there was no need for a colostomy. The patient was discharged on the tenth day of the burn. Photographs of our case on the first day and at the time of discharge are shown below (Figures 1, 2).



Figure 1. The first day of the burn



Figure 2. During the control

Discussion

In our country, in 92% of the cases where children are hospitalized because of injuries caused by corrosive substances, the injuries were caused by imprudence. Most of the cases hospitalized in burn care units are under five years of age. 81.4% of these burn cases happen at home [5]. Children under the age of five become active and interested in their environment, so home accidents are most common in these years. Burn patients who should be treated via hospitalization include: more than 10% second degree burns; burns on face, hands, genitalia, perineum, and large joint area; full thickness burns; electrical burns; chemical burns; inhalation injury patients; burn problems accompanied by trauma, co-morbid disease, social, and psychological problems; and cases requiring a long rehabilitation period [6]. Our patient was hospitalized for treatment. Although this changes from clinic to clinic, often patients with burns experience infections, including wound infection, sepsis, hospital-acquired pneumonia, and urinary tract infections [7]. In our case, since infection might develop as a result of contact with stool, we were particularly concerned. In the related literature there is no case of burns caused by sitting on a corrosive material. Our case is the first in this context. A case of vaginal burn with alkaline batteries in an eight-year-old girl was reported [8]. We think that these problems can be prevented through raising awareness. Because there is widespread use of corrosive materials at home, if we do not prevent children from reaching these materials, we will continue to see reports of burns related to corrosive materials in the literature. Protective measures to avoid contact with corrosive materials are very important. The best antidote is education; other preventive measures effective in reducing incidents include packaging corrosive substances, labelling, keeping the surroundings tidy, and educating the family about how to store chemicals at home. However, in addition to these measures, it is important to distinguish whether corrosive material burns happen due to carelessness or deliberate punishment during toilet training. We must focus on the actual situations in the cases of children's burns. Each case should be considered individually, beginning with a detailed patient history that must include inference based on the facts of the case [11]. In conclusion, corrosive burns must be prevented through raising awareness in families and society. If not, we may be faced with more interesting burn locations.

Competing interests

The authors declare that they have no competing interests.

References

1. Aydın E, Özcan R, Emre Ş, Tütüncü Ç, Kuroğlu S, Erdoğan E, et al. Corrosive ingestion in pediatric age group: Analysis of 681 patients. *J Pediatr Surg* 2012;26(1-2):26-31.
2. Güven A. Dangers to children at home: Corrosive esophageal burn. *TAF Prev Med Bull* 2008;7(6):535-40.
3. Küçük F, Balcı S. Characteristics of children between 1-6 ages who drink corrosive substances and the first applications of families. *J Anatolia Nursing and Health Sci* 2011;14:32-9.
4. Ceylan H, Özokutan BH, Gündüz F, Gözen A. Gastric perforation after corrosive ingestion. *Pediatr Surg Int* 2011;27(6):649-53.
5. Aytaç S, Özgenel YG, Akın S, Kahveci R, Özbek S, Özcan M. Epidemiological survey of childhood burn injuries in the southern Marmara region. *Uludağ Univ J Med* 2004;30(3):145-9.
6. Aygıt AC, Pırlancı Ö, Şen Mercan E. Evaluation of burn wound infection among pediatric patients in the age range of 0-12 years in a burn unit. *JAREM* 2012;2:55-8.

7. Diler B, Dalgıç N, Karadağ ÇA, Dokucu AI. Epidemiology and infections in a pediatric burn unit: experience of three years. J Pediatr Inf 2012;6:40-5.
8. Griffin K, Brent R, Vollenhoven B, Swamson AE. Vaginal burn from alkaline battery in an 8 year old. J Pediatr Adolesc Gynecol 2015;28(4):99-100.

How to cite this article:

Süzen A, İnanç BB. Burns Caused by Sitting on Corrosive Material. J Clin Anal Med 2016;7(4): 570-2.